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EXAMINER
WOLLSCHLAGER, JEFFREY MICHAEL

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Please find below and/or attached an Office communication concerning this application or proceeding.

8

Office Action Summary	Application No.	Applicant(s)	
	10/734,047	KWON, HYUK TARK	
	Examiner	Art Unit	
	Jeff Wollschlager	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 June 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) *13-16,23,24,27,28 and 30* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,17-22,26 and 29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *71504; 52206*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of claims 1-12, 17-22, 26 and 26 in the reply filed on August 23, 2005 is acknowledged. Claim 13-16, 23, 24, 27, 28, and 30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim.

Applicant states in the reply filed August 23, 2005 that claims 13-16, 23, 24, 27, 28 and 30 are cancelled while the amended claims present the claims as being withdrawn. Appropriate correction is required.

Claim Objections

Claim 12 is objected to because of the following informalities: The recitation "flat or at tapered at least" appears to not need the word "at". Appropriate correction is required.

Claim 17 is objected to because of the following informalities: The recitation "above the melt temperature of each to obtain the melt of each of the at least two polymers" is grammatically incorrect. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-12, 17-22, 26 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is indefinite because there is a step apparently missing from the claimed process. The steps go from step (3) to step (5). There is no step (4) recited. For the purposes of examination the claim was examined as presented. Claims 1 and 3 are further indefinite because it is unclear what limitation the recitation "head has been modified" is intended to provide to the claims. For the purposes of examination, any extruding head capable of extruding the first thermoplastic polymer is considered to meet that limitation of the claim.

Claims 17, 26, and 29 are indefinite because it is unclear what additional process step is being performed in step (4) that is not already performed in step (3). In step (3) of the claims, an extrusion blow molding machine is employed to blow mold a blow molded structure. This same step is performed in step (4) although presented in a somewhat different manner. If step (4) is providing an additional limitation beyond that which is presented in step (3), it is unclear what that limitation is intended to be. Claims 17, 26, and 29 are further indefinite because it is unclear what limitation the recitation "head has been modified" is intended to provide to the claims. For the purposes of examination, any extruding head capable of extruding the thermoplastic polymer is considered to meet that limitation of the claims. Claim 26 is further indefinite still because the claim recites that the employed resin is a "monolayer container comprising an acid copolymer ionomer" and later recites, "the at least two thermoplastic polymers",

and "the thermoplastic polymer" are the employed resins. It is unclear what the material limitation is for the claim. For the purposes of examination, a resin comprising an acid copolymer ionomer is understood to be the intended material limitation.

Claims 12 and 29 are indefinite because it is unclear what the limitations "roughened, not polished" and "roughened and not polished" mean. It is unclear whether the roughened surface comprises the "surface imperfections" (Instant Application: U.S. Patent Application Publication 2005/0129888, paragraph [0014]) that exist in the surface of an unpolished mold or if it comprises an active step of roughening the surface. For the purposes of examination, either reasonable interpretation is considered appropriate.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 and 29 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as being obvious over Dundas et al. (U.S. Patent 5,068,075; issued November 26, 1991).

Regarding claim 1, Dundas et al. teach a method for manufacturing a monolayer or multilayer container comprising: heating each of at least two thermoplastic polymers to a temperature above the melt temperature of each to obtain a homogeneous melt of each of the at least two polymers; co-extruding the at least two thermoplastic polymers

through a co-extrusion blow molding head into an open mold (2:21-28); using the extrusion blow molding machine to blow mold the at least two thermoplastic materials to form a blow molded structure having an internal surface and an external surface, wherein the blow molding machine intrinsically comprises as part of the co-extrusion system a first head/orifice containing body for extruding a first thermoplastic polymer that is to be used as the outer layer and at least a second head/orifice containing body for extruding at least one additional polymer (2:21-28; Figures 1 and 2); a mold comprising a first cooling means for cooling the outside of the blow molded structure and a second cooling means for cooling the inside of the blow molded structure as it is blow molded (1:42-46 and 55-64); a pinch off area and dual pinching means (i.e. closing mold halves) for pinching the outer layer in a manner such that the outer layer forces the at least one other layer out of the pinch off area (Figure 2 and Figure 4, element (34)); and using the first and second cooling means to cool the inside and outside of the blow molded structure to a temperature below about 22 °C/ambient while forming the blow molded structure (3:40-42; 4:64-66; 5:14-18 and 29-36; 6:2-3).

Alternatively, it would have been obvious to one having ordinary skill in the art at the time of the claimed invention to cool the temperature to “about 22 °C” since the recitation “about 22 °C” would have been reasonably understood by one having ordinary skill in the art to overlap the ambient temperature range taught by Dundas et al. Additionally, one having ordinary skill would have been motivated to cool to “about 22 °C” for the purpose of rapidly cooling the container.

As to claim 2, the co-extrusion process employed by Dundas et al. discloses a first and second polymer (2:21-27).

As to claim 3, the co-extrusion process disclosed by Dundas et al. would inherently have a second head modified sufficiently to extrude the second polymer (2:21-27).

As to claim 4, the first cooling means is a temperature of about 60 °F/16 °C (6:2-3) and the second cooling means is a means for discharging cold gas under pressure (5:4-18).

Regarding claim 29, Dundas et al. teach a method for manufacturing a monolayer or multilayer container comprising: heating each of at least two thermoplastic polymers to a temperature above the melt temperature of each to obtain a homogeneous melt of each of the at least two polymers; co-extruding the at least two thermoplastic polymers through a co-extrusion blow molding head into an open mold (2:21-28); using the extrusion blow molding machine to blow mold the at least two thermoplastic materials to form a blow molded structure having an internal surface and an external surface, wherein the blow molding machine intrinsically comprises as part of the co-extrusion system a first head/orifice containing body for extruding a first thermoplastic polymer that is to be used as the outer layer and at least a second head/orifice containing body for extruding at least one additional polymer (2:21-28; Figures 1 and 2); a mold comprising a first cooling means for cooling the outside of the blow molded structure and a second cooling means for cooling the inside of the blow molded structure as it is blow molded (1:42-46 and 55-64); a pinch off area and dual

pinching means (i.e. closing mold halves) for pinching the outer layer in a manner such that the outer layer forces the at least one other layer out of the pinch off area (Figure 2 and Figure 4, element (34)); and using the first and second cooling means to cool the inside and outside of the blow molded structure to a temperature below about 22 °C/ambient while forming the blow molded structure (3:40-42; 4:64-66; 5:14-18 and 29-36; 6:2-3), wherein the mold surface is not polished and thus is roughened due to the existing surface imperfections.

Alternatively, it would have been obvious to one having ordinary skill in the art at the time of the claimed invention to cool the temperature to "about 22 °C" since the recitation "about 22 °C" would have been reasonably understood by one having ordinary skill in the art to overlap the ambient temperature range taught by Dundas et al. Additionally, one having ordinary skill would have been motivated to cool to "about 22 °C" for the purpose of rapidly cooling the container.

Claims 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Michihata et al. (EP 1 072 399; published January 31, 2001).

Regarding claim 17, Michihata et al. teach a process for manufacturing a multilayer container comprising the steps: heating each of at least two thermoplastic polymers to a temperature above the melt temperature of each to melt each of the at least two polymers; extruding the at least two polymers through a blow molding die into an open mold; using an extrusion blow molding machine to blow mold the at least two thermoplastic polymeric materials to form a blow molded structure having an internal

surface and an external surface, wherein the blow molding machine comprises: a first die head/orifice containing body for extruding a first thermoplastic polymer that is to be used as the outer layer, and at least a second die head/orifice containing body for extruding the at least one additional polymer; a pinch off area and a duel pinching means for pinching the outer layer in a manner such that the outer layer forces the at least one other layer out of the pinch off area and using the pinching means to pinch off the blow molded structure to obtain a blow molded structure having a continuous transparent outer layer, wherein the process does not include the step of cooling the inner surface of the parison (paragraphs [0008, 0037, 0051, 0084, 0096, 0113]).

As to claim 18, Michihata et al. teach that only a first and second polymer are extruded in the process. For example, layer C taught by Michihata et al. can be the same as layer A (paragraph [0096]).

As to claim 19, Michihata et al. teach the claim limitation as it is currently understood.

As to claim 20, Michihata et al. teach the first polymer may be a polyvinyl chloride for example (paragraph [0084]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

> invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dundas et al. (U.S. Patent 5,068,075; issued November 26, 1991).

As to claims 5-8, Dundas et al. teach the method of claim 1 as discussed in the 102(b) rejection above and further disclose the cold gas discharged is below ambient temperature. They do not expressly disclose the cold gas is less than the specifically claimed temperatures. However, Dundas et al. further disclose that the pressure reduction may be varied as desired by adjusting the venturi (5:14-18 and 29-37). This varying of the venturi would impact the temperature of the discharging gas as is routinely practiced in the art. Therefore, it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to adjust the venturi as taught by Dundas et al., to further cool the gas in order to promote rapid cooling of the container.

Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dundas et al., as applied to claims 1-8 above, and further in view of Nohara et al (U.S. Patent 3,882,259; issued May 6, 1975) or Suzuki et al. (U.S. Patent 4,079,850; issued March 21, 1978).

As to claims 9-11, Dundas et al. teach the method of claim 8 as discussed in the 103(a) rejection above, but do not disclose employing the specific claimed resins. However, Nohara et al. and Suzuki et al. each individually teach an analogous method

of manufacturing a container wherein an ionomer acid copolymer is employed (Abstract, 1:60-64, 2:35-41).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to modify the method taught by Dundas et al. by employing the specific ionomer acid copolymer taught by either Nohara et al. or Suzuki et al. for the purpose, as taught by Nohara et al., of improving the resistance of the container to gas and moisture permeation (Abstract) and as taught by Suzuki et al, of improving resistance to oxygen permeability (col. 4, lines 48-66).

As to claim 12, Dundas et al. teach the pinched point is flat or tapered at least slightly toward the inner cavity of the blow molded structure (Figure 2 and Figure 4, element (34)). Additionally, Dundas et al. do not polish the mold surfaces. As such, the surface imperfections have not been removed and a roughened, not polished, surface exists.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dundas et al. in view of Nohara et al. or Suzuki et al., as applied to claim 11 above, and further in view of Sugawara et al (U.S. Patent 6,303,071; issued October 16, 2001).

As to claim 12, Dundas et al. in view of Nohara et al. or Suzuki et al. teach the method of claim 11 as discussed in the 103(a) rejection above. Additionally, they implicitly teach the surface is roughened, not polished. In an alternative interpretation of the claim, Dundas et al do not expressly teach an active step of roughening the surface of the mold. However, Sugawara et al. teach an analogous method where they

emboss/roughen the surface of the claim in order to produce a desired surface feature on the molded surface (col. 2, lines 53-59 and col. 8, lines 61-67).

Therefore, it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to modify the teaching of Dundas et al. with the embossed/roughened mold surface taught by Sugawara et al. for the purpose of producing a desired surface feature on the molded structure.

Claims 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Michihata et al., as applied to claims 17-19 above, and further in view of Nohara et al. (U.S. Patent 3,882,259; issued May 6, 1975) or Suzuki et al. (U.S. Patent 4,079,850; issued March 21, 1978).

As to claims 20-22, Michihata et al. teach the method of claims 17-19 as discussed above, but do not teach the first polymer is a copolymer of ethylene and an unsaturated carboxylic acid or an ionomer. However, Nohara et al. and Suzuki et al. each individually teach an analogous method of manufacturing a container wherein an ionomer acid copolymer is employed (Abstract, 1:60-64, 2:35-41).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to modify the method taught by Dundas et al. by employing the specific ionomer acid copolymer taught by either Nohara et al. or Suzuki et al. for the purpose, as taught by Nohara et al., of improving the resistance of the container to gas and moisture permeation (Abstract) and as taught by Suzuki et al, of improving resistance to oxygen permeability (col. 4, lines 48-66). Further, Suzuki et

al. teach changing the layer placement of the different materials is controlled by the desired properties of the product being produced (col. 4, lines 48-col. 5, line 50).

Claims 17-22 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugawara et al. (U.S. Patent 6,303,071; issued October 16, 2001) in view of Nohara et al. (U.S. Patent 3,882,259; issued May 6, 1975) or Suzuki et al. (U.S. Patent 4,079,850; issued March 21, 1978).

Regarding claims 17-22, Sugawara et al. teach a process for manufacturing a multilayer container comprising the steps: heating each of at least two thermoplastic polymers to a temperature above the melt temperature of each to melt each of the at least two polymers; extruding the at least two polymers through a blow molding die into an open mold; using an extrusion blow molding machine to blow mold the at least two thermoplastic polymeric materials to form a blow molded structure having an internal surface and an external surface, wherein the blow molding machine comprises: a first die head/orifice containing body for extruding a first thermoplastic polymer that is to be used as the outer layer, and at least a second die head/orifice containing body for extruding the at least one additional polymer; a pinch off area and a duel pinching means for pinching the outer layer in a manner such that the outer layer forces the at least one other layer out of the pinch off area and using the pinching means to pinch off the blow molded structure to obtain a blow molded structure having a continuous transparent outer layer, and in a non-preferred embodiment teach the process does not include the step of cooling the inner surface of the parison (Abstract; col. 3, line 59-col.

4, line 41; col. 5, line 25-67; col. 6, lines 33-45; col. 8, line 5-11; col. 9, lines 1-8 and 25-42). Sugawara et al. do not expressly teach the material employed by the method is an ionomer. However, Nohara et al. and Suzuki et al. each individually teach an analogous method of manufacturing a container wherein an ionomer acid copolymer is employed (Abstract, 1:60-64, 2:35-41).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to modify the method taught by Sugawara et al. by employing the specific ionomer acid copolymer taught by either Nohara et al. or Suzuki et al. for the purpose, as taught by Nohara et al., of improving the resistance of the container to gas and moisture permeation (Abstract) and as taught by Suzuki et al, of improving resistance to oxygen permeability (col. 4, lines 48-66).

Regarding claim 26, Sugawara et al. teach a method for manufacturing a monolayer container comprising: heating the resin to a temperature above its melt temperature to obtain a melted resin; extruding the resin through a blow molding head into an open mold; using an extrusion blow molding machine to blow mold the resin to form a blow molded structure having an internal surface and an external surface, wherein the blow molding machine inherently comprises a head/orifice containing body for extruding the resin to extrude a homogeneous melt of the polymer and means for cooling the inside of the blow molded structure as it is blow molded; and using the cooling means to cool the inside of the blow molded structure to a temperature below the melt temperature of the resin while forming the blow molded structure in the mold

(Abstract; col. 3, line 59-col. 4, line 41; col. 5, line 25-67; col. 6, lines 33-45; col. 8, line 5-11; col. 9, lines 1-8 and 25-42).

Sugawara et al. do not teach the employed resin is an acid copolymer ionomer. However, Nohara et al. and Suzuki et al. each individually teach an analogous method of manufacturing a container wherein an ionomer acid copolymer is employed (Abstract, 1:60-64, 2:35-41).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to modify the method taught by Sugawara et al. by employing the specific ionomer acid copolymer taught by either Nohara et al. or Suzuki et al. for the purpose, as taught by Nohara et al., of improving the resistance of the container to gas and moisture permeation (Abstract) and as taught by Suzuki et al, of improving resistance to oxygen permeability (col. 4, lines 48-66).

Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dundas et al. (U.S. Patent 5,068,075; issued November 26, 1991) in view of Nohara et al. (U.S. Patent 3,882,259; issued May 6, 1975) or Suzuki et al. (U.S. Patent 4,079,850; issued March 21, 1978).

Regarding claim 26, Dundas et al. teach a method for manufacturing a monolayer container comprising: heating the resin to a temperature above its melt temperature to obtain a melted resin; extruding the resin through a blow molding head into an open mold (2:21-28); using an extrusion blow molding machine to blow mold the resin to form a blow molded structure having an internal surface and an external

surface, wherein the blow molding machine inherently comprises a head/orifice containing body for extruding the resin to extrude a homogeneous melt of the polymer and means for cooling the inside of the blow molded structure as it is blow molded (1:42-46 and 55-64); and using the cooling means to cool the inside of the blow molded structure to a temperature below the melt temperature of the resin while forming the blow molded structure in the mold (3:40-42; 4:64-66; 5:14-18 and 29-36; 6:2-3).

Dundas et al. do not teach the employed resin is an acid copolymer ionomer. However, Nohara et al. and Suzuki et al. each individually teach an analogous method of manufacturing a container wherein an ionomer acid copolymer is employed (Abstract, 1:60-64, 2:35-41).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to modify the method taught by Dundas et al. by employing the specific ionomer acid copolymer taught by either Nohara et al. or Suzuki et al. for the purpose, as taught by Nohara et al., of improving the resistance of the container to gas and moisture permeation (Abstract) and as taught by Suzuki et al, of improving resistance to oxygen permeability (col. 4, lines 48-66).

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable Dundas et al. (U.S. Patent 5,068,075; issued November 26, 1991) in view of Sugawara et al. (U.S. Patent 6,303,071; issued October 16, 2001).

Regarding claim 29, Dundas et al. teach a method for manufacturing a monolayer or multilayer container comprising: heating each of at least two thermoplastic

polymers to a temperature above the melt temperature of each to obtain a homogeneous melt of each of the at least two polymers; co-extruding the at least two thermoplastic polymers through a co-extrusion blow molding head into an open mold (2:21-28); using the extrusion blow molding machine to blow mold the at least two thermoplastic materials to form a blow molded structure having an internal surface and an external surface, wherein the blow molding machine intrinsically comprises as part of the co-extrusion system a first head/orifice containing body for extruding a first thermoplastic polymer that is to be used as the outer layer and at least a second head/orifice containing body for extruding at least one additional polymer (2:21-28; Figures 1 and 2); a mold comprising a first cooling means for cooling the outside of the blow molded structure and a second cooling means for cooling the inside of the blow molded structure as it is blow molded (1:42-46 and 55-64); a pinch off area and dual pinching means (i.e. closing mold halves) for pinching the outer layer in a manner such that the outer layer forces the at least one other layer out of the pinch off area (Figure 2 and Figure 4, element (34)); and using the first and second cooling means to cool the inside and outside of the blow molded structure to a temperature below about 22 °C/ambient while forming the blow molded structure (3:40-42; 4:64-66; 5:14-18 and 29-36; 6:2-3), wherein the mold surface is not polished and thus is roughened due to the existing surface imperfections.

In an alternative interpretation of the claim, Dundas et al. do not expressly teach an active step of roughening the surface of the mold. However, Sugawara et al. teach an analogous method where they emboss/roughen the surface of the claim in order to

produce a desired surface feature on the molded surface (col. 2, lines 53-59 and col. 8, lines 61-67).

Therefore, it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to modify the teaching of Dundas et al. with the embossed/roughened mold surface taught by Sugawara et al. for the purpose of producing a desired surface feature on the molded structure.

Claims 1-12 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (U.S. Patent 4,079,850; issued March 21, 1978) in view of Bose (U.S. Patent 3,789,093; issued January 29, 1974).

Regarding claims 1-3, Suzuki et al., teach a method for manufacturing a multilayer container comprising: heating each of at least two thermoplastic polymers to a temperature above the melt temperature of each to obtain a homogeneous melt of each of the at least two polymers; co-extruding the at least two thermoplastic polymers through a co-extrusion blow molding head into an open mold; using the extrusion blow molding machine to blow mold the at least two thermoplastic materials to form a blow molded structure having an internal surface and an external surface, wherein the blow molding machine intrinsically comprises as part of the co-extrusion system a first head/orifice containing body for extruding a first thermoplastic polymer that is to be used as the outer layer and at least a second head/orifice containing body for extruding at least one additional polymer; a mold having a pinch off area and dual pinching means for pinching the outer layer in a manner such that the outer layer forces the at least one

other layer out of the pinch off area (Abstract; Figures 2-A and 2-B; col. 1, lines 64-col. 2,line 3; col. 2, lines 10-30 and 50-67; col. 4, lines 2-19 and 49-67).

Suzuki et al. do not expressly disclose the means of cooling employed in their process. However, Bose teaches a method for accelerating molding cycle time by employing a first and second cooling means to reduce the inside and outside of the blow molded structure to a temperature less than ambient while forming the structure (col. 1, line 63-col. 2, line 1; col. 2, lines 24-47; col. 3, lines 5-15 and 35-55; col. 4, lines 30-59).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to employ the specific cooling means taught by Bose in the method taught by Suzuki for the purpose, as taught by Bose, of reducing the cycle time of the molding process (Abstract).

As to claims 4-8, Bose teaches a process where the discharged gas is CO2 with at a temperature substantially below ambient (col. 1, line 67-69) and with a substantially lower dewpoint than ambient (col. 4, lines 56-59).

As to claims 9-12, Suzuki et al. teach utilizing the claimed resins (col. 4, lines 49-65).

Regarding claim 29, Suzuki et al., teach a method for manufacturing a multilayer container comprising: heating each of at least two thermoplastic polymers to a temperature above the melt temperature of each to obtain a homogeneous melt of each of the at least two polymers; co-extruding the at least two thermoplastic polymers through a co-extrusion blow molding head into an open mold; using the extrusion blow

molding machine to blow mold the at least two thermoplastic materials to form a blow molded structure having an internal surface and an external surface, wherein the blow molding machine intrinsically comprises as part of the co-extrusion system a first head/orifice containing body for extruding a first thermoplastic polymer that is to be used as the outer layer and at least a second head/orifice containing body for extruding at least one additional polymer; a mold having a pinch off area and dual pinching means for pinching the outer layer in a manner such that the outer layer forces the at least one other layer out of the pinch off area, wherein the mold surface is not polished and thus is roughened due to the existing surface imperfections. (Abstract; Figures 2-A and 2-B; col. 1, lines 64-col. 2,line 3; col. 2, lines 10-30 and 50-67; col. 4, lines 2-19 and 49-67).

Suzuki et al. do not expressly disclose the means of cooling employed in their process. However, Bose teaches a method for accelerating molding cycle time by employing a first and second cooling means to reduce the inside and outside of the blow molded structure to a temperature less than ambient while forming the structure (col. 1, line 63-col. 2, line 1; col. 2, lines 24-47; col. 3, lines 5-15 and 35-55; col. 4, lines 30-59).

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to employ the specific cooling means taught by Bose in the method taught by Suzuki for the purpose, as taught by Bose, of reducing the cycle time of the molding process (Abstract).

Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. (U.S. Patent 4,079,850; issued March 21, 1978) in view of Bose (U.S. Patent 3,789,093; issued January 29, 1974) and further in view of Sugawara et al. (U.S. Patent 6,303,071; issued October 16, 2001).

Suzuki et al., teach a method for manufacturing a multilayer container comprising: heating each of at least two thermoplastic polymers to a temperature above the melt temperature of each to obtain a homogeneous melt of each of the at least two polymers; co-extruding the at least two thermoplastic polymers through a co-extrusion blow molding head into an open mold; using the extrusion blow molding machine to blow mold the at least two thermoplastic materials to form a blow molded structure having an internal surface and an external surface, wherein the blow molding machine intrinsically comprises as part of the co-extrusion system a first head/orifice containing body for extruding a first thermoplastic polymer that is to be used as the outer layer and at least a second head/orifice containing body for extruding at least one additional polymer; a mold having a pinch off area and dual pinching means for pinching the outer layer in a manner such that the outer layer forces the at least one other layer out of the pinch off area, wherein the mold surface is not polished and thus is roughened due to the existing surface imperfections. (Abstract; Figures 2-A and 2-B; col. 1, lines 64-col. 2,line 3; col. 2, lines 10-30 and 50-67; col. 4, lines 2-19 and 49-67).

Suzuki et al. do not expressly disclose the means of cooling employed in their process. Additionally, in an alternative interpretation of the claim, Suzuki et al. do not teach an active step of roughening the surface of the mold. However, Bose teaches a

method for accelerating molding cycle time by employing a first and second cooling means to reduce the inside and outside of the blow molded structure to a temperature less than ambient while forming the structure (col. 1, line 63-col. 2, line 1; col. 2, lines 24-47; col. 3, lines 5-15 and 35-55; col. 4, lines 30-59) and Sugawara et al. teach the surface of the mold may be embossed/roughened to create a desired surface appearance.

Therefore it would have been *prima facie* obvious to one having ordinary skill in the art at the time of the claimed invention to employ the specific cooling means taught by Bose in the method taught by Suzuki for the purpose, as taught by Bose, of reducing the cycle time of the molding process (Abstract) and to employ the roughened/embossed mold surface taught by Sugawara et al. for the purpose of creating a desired surface appearance for the molded structure.

Conclusion

All claims are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Wollschlager whose telephone number is 571-272-8937. The examiner can normally be reached on Monday - Thursday 7:00 - 4:45, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on 571-272-1176. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

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July 20, 2006

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PRIMARY EXAMINER
7/21/06